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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,987	09/05/2000	Aiden Flanagan	S63.2-8765	7494

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VIDAS, ARRETT & STEINKRAUS, P.A.
6109 BLUE CIRCLE DRIVE
SUITE 2000
MINNETONKA, MN 55343-9185

EXAMINER	
YAO, SAMCHUAN CUA	
ART UNIT	**PAPER NUMBER**
1733	

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/654,987	FLANAGAN, AIDEN	
	Examiner	Art Unit	
	Sam Chuan C. Yao	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13,16,34 and 36-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-13,16,34 and 36-38* is/are allowed.

6)☒ Claim(s) *39-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☒ Interview Summary (PTO-413) Paper No(s). *24* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Renumbered claims 39-44, 46-49, 51 and 58-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Forman (US 5,501,759).

It is taken that, the limitation of "generating a first beam of substantially annular beam of electromagnetic energy substantially continuous in the annular direction, ..." reads on an embodiment taught by Forman where fixture (118) is provided with 6 radial openings for 6 optical fibers (122-132); wherein, these optical fibers are connected to a laser energy source (134) and are used to uniformly distribute a laser energy beam around a *"bond area and slightly overlapping one another along the annular bond site to insure substantially even energy distribution."* (emphasis added). Also see column 1 lines 11-16; column 5 lines 15-35; column 6 lines 31-61; column 7 lines 42-54; and figures 8-14. Note: since the laser beams overlap one another along an annular site, catheter tubing and balloon must inherently be exposed to a substantially continuous annular laser beam. Moreover, the annular laser energy beam from the optical fibers must inherently have a *"substantially uniform distribution annularly"*

because as noted above, the *"annular bond site"* has a *"substantially even energy distribution"*. As for the limitation of "controllably redirecting the first laser beam", such is taken to read on he process taught by Forman, because as clearly illustrated in figures 11-14, a substantially annular electromagnetic energy is **concurrently** generated and controllably redirected from a source for generating a laser beam.

As for the newly added limitation of *"without impinging on the polymeric material **or** the polymeric catheter tube"* (emphasis and bold-face added), as clearly illustrated in figures 12 and 14, **the generated laser impinges on a heat-shrink tubing (116)**. Equally important, this limitation does not preclude impinging either a polymeric material **or** a polymeric catheter tube.

With respect to claims 40 and 44, since these claims **do not** require simultaneously directing 1st and 2nd annular beams ..., and **do not** require the 1st and 2nd annular beams being generated from different laser sources; and, since Forman further teaches that, after performing a distal bonding, a proximal bonding is also performed in *"substantially the same process"* (col. 9 lines 13-18); the limitations in these claims are taken to read sequentially directing a laser beam shown in figures 11-14 of Forman against catheter tubing and balloon.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Renumbered claims 39, 41-44, 46-51, and 55-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forman (US 5,501,759) in view of Wysocki et al (US 5,339,380) for reasons of record set forth in Paper No. 22 numbered paragraph 8.

5. Renumbered claims 40, 44-45 and 52-54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forman (US 5,501,759) as applied to claim 39 in numbered paragraph 2 above for reasons of record set forth in Paper No. 22 numbered paragraph 9.

6. Renumbered claims 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 8 as applied to claim 39 above, and further in view of Buchroeder et al (US 4,623,776) for reasons of record set forth in Paper No. 22 numbered paragraph 10.

Allowable Subject Matter

7. Claims 1-13, 16, 34, and 36-38 are allowed.

Response to Arguments

8. Applicant's arguments filed on 08-11-03 have been fully considered but they are not persuasive.

In response to argument number 6 on page 11 regarding the Forman patent, it should noted that, Counsel's argument is not commesurate with

the scope of the recited claims. The claims as presently recited do not require sequentially generating an annular beam and redirecting the annular beam. Therefore, it is respectfully submitted that, the recited claims do not define over the process of Forman illustrated in figures 11-14. In any event, **even for the sake of argument that, the recited generating and controllably redirecting steps define over Forman, these process steps would have been obvious in the art because, as noted above: Wysocki et al teaches using a laser and a parabolic mirror to generate an annular beam of electromagnetic energy to fusion-weld a pair of optical fibers, and further discloses that, the optical fibers are uniformly heated around their circumference and the process produces "*highly reproducible results* ..."** (col. 2 lines 18-68). The collective teachings of Forman and Wysocki et al would have suggested to one in the art to incorporate the laser heating technique of Wysocki et al into the process of Forman in welding a balloon catheter to a catheter tube because it provides an effective and yet highly reproducible way of uniformly heating around a catheter tube and catheter balloon so that they can be uniformly welded together and form a uniformly *"fluid tight seals"* (col. 1 lines 14-16).

As for Counsel's argument regarding claim 55, it should be noted that, the rejection of claim 55 under 35 USC 102 has been withdrawn. However, this claim stand rejected under 35 USC 103 for the same reasons set forth above.

In response to argument number 8 on page 12, just because Wysocki et al does not explicitly use the same terminology (i.e. annular beam) as Applicant, it does not necessarily mean that, a laser beam generated in the process taught by Wysocki et al is not an annular beam. If the generated laser beam is NOT annular, then how can a redirected beam effectively uniformly heat optical fibers around the whole circumference of the fibers (col. 2 lines 18-68; figures 1-2). In fact, the generated laser beam illustrated in figures 2-3 in the Wysocki et al patent is strikingly similar to the one illustrated in figure 3 of the present application. It is quite interesting, the lenses used in the present application not only perform a function of generating an annular beam, but also perform a function as a laser beam expander. As for Counsel's argument that *"the beam used in Wysocki apparently impinges upon the article to be heated before the beam is redirected."*, Examiner strongly disagrees with Counsel's characterization of Wysocki. It is suggested for Counsel to point out in the Wysocki et al patent where it teaches a beam impinging on article to be heated **before** redirecting the beam. Equally important, as noted above, Forman teaches providing a heat-shrinkable tubing around a dilation balloon. Therefore, even if Counsel is correct, the beam would have impinged against the heat-shrinkable tubing.

In response to argument number 10 on page 12 regarding independent claim 52, Buchroeder et al is merely cited to show that it is known in the

art to simultaneously impinge an article at two separate locations using a laser beam. Certainly, one in the art would not have blindly incorporated the teachings of Buchroeder et al into the process taught by Forman. The teaching of Buchroeder et al would have suggested to one in the art that one could simultaneously weld the balloon and catheter tubing around distal and proximal portions. It was suggested for Counsel on 09-15-03 to amend this claim to require:

a) disposing an annular beam to be paralell a longitudinal axis of a catheter tube;

b) redirecting 1st and 2nd annular beams using a parabolic mirror **after** a generating step

in order to make this claim allowable.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (703) 308-4788. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W Ball can be reached on (703) 308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

Scy
09-22-03